

ENGINEERING DEPARTMENT RESOURCES DEPARTMENT

> 1900 E. Flamingo Road Las Vegas, NV 89119

Main 702/862-3400 Fax 702/862-3470

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July 10, 2006

Dan Netcher, Lead Geologist Bureau of Land Management Ely Field Office HC33 Box 33500 Ely, Nevada 89301

Dear Mr. Netcher:

SUBJECT: GROUNDWATER MONITORING AND TESTING WELLS, SOUTHERN SPRING VALLEY

Enclosed are a right-of-way application and plan of development for monitoring and testing wells at four sites in southern Spring Valley, Lincoln and White Pine Counties. The proposed monitoring and testing wells would be used to conduct hydrologic testing of Spring Valley. Information obtained from the testing would be used to assess aquifer characteristics, including storage parameters and hydraulic conductivity. Because there is limited hydrologic testing information available from this area, the data collected would benefit the Bureau of Land Management (BLM) and the public through a better understanding of the carbonate and alluvial aquifers in this area. Information collected during the testing could also be used in future groundwater modeling analyses and impact assessments.

The wells would continue to be used for groundwater monitoring after completion of the testing activities. A right-of-way term for 10 years is requested. Information obtained from the drilling, testing, and monitoring will be shared with the BLM, State of Nevada, and other interested agencies and parties.

If you have any questions about this request, please contact Lisa Luptowitz at (702) 862-3789.

Sincerely,

Kenneth A. Albright, P.E.

Director, Groundwater Resources

KAA:LL:cec

**Enclosures** 

c: Penny Woods, Groundwater Projects Manager, BLM Lisa Luptowitz, Senior Environmental Planner, SNWA STANDARD FORM 299 (10/95) Prescribed by DOI/USDA/DOT P.L. 96-487 and Federal Register Notice 5-22-95 FORM APPROVED OMB NO. 1004-0060 Expires: August 31, 199

Register Notice 5-22-95 APPLICATION FOR TRANSF UTILITY SYSTEMS AN			Expires. August 31, 1990		
	ON FEDERAL L		FOR AGENCY USE ONLY		
		ould completely review this package and schedule a pre- nsible for processing the application. Each agency may	Application Number		
have specific and		and processing the application. Many times, with the help	Date Filed		
Name and address of applicant (include zip code)  Southern Nevada Water Authority 1900 E. Flamingo Road Las Vegas, NV 89119		Name, title, and address of authorized agent if different from item 1 (include zip code)	1. TELEPHONE (area code) (702) 862-3775		
		different from fiern 1 (include zip code)	Southern Nevada Water Authority		
<b>5</b>			Authorized Agent Ken Albright		
4. As applicant are you? (ch a. Individual b. Corporation* c. Partnership/Assoc d. X State Governme e. Local Government f. Federal Agency	iation* nt/State Agency	5. Specify what application is for: (check one)  a. X New authorization  b. Renewing existing authorization No.  c. Amend existing authorization No.  d. Assign existing authorization No.  e. Existing use for which no authorization has been	as been received *		
* If checked, complete supp	lemental page	* If checked, provide details under item 7			
If an individual, or partners	ship are you a citizen(s) of the United States	? Yes No <b>N/A</b>			

7. Project description (describe in detail): (a) Type of system or facility, (e.g., canal, pipeline, road); (b) related structures and facilities; (c) physical specifications (Length, width, grading, etc.); (d) term of years needed: (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction (Attach additional sheets, if additional space is needed.)

Monitoring and testing wells would be drilled at four sites in southern Spring Valley, in Lincoln and White Pine Counties. The wells would be used to conduct hydrologic testing of the groundwater. A more detailed project description is provided in the attached Plan of Development.

8. Attach a map covering area and show location of project proposal See attached							
9. State or Local government approval:	Attached	Applied for	Χ	Not Required			
10. Non-returnable application fee:	Attached	Not required	То	be submitted upon BLM determination of Cost Recovery			
11. Does project cross international boundary or affect international waterways? Yes X No (if "yes," indicate on map)							

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

The Southern Nevada Water Authority (SNWA) has the technical and financial capability to construct, operate, maintain, and terminate the facilities for which authorization is being requested. SNWA has allocated \$38 million for construction of monitoring, testing, and exploratory wells through its Major Construction and Capital Plan.

13a. Describe other reasonable alternative routes and modes considered

These well sites were chosen based on available geologic information and presence of existing access roads, in order to obtain the best data for assessment of aquifer characteristics, storage parameters and hydraulic conductivity as well as future groundwater modeling analysis and impact assessments. No other alternative sites have been identified.

b. Why were these alternatives not selected?

### See 13a

c. Give explanation as to why it is necessary to cross Federal Lands.

Due to the limited amount of private lands in this area, it would not be possible to avoid Federal Lands.

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. (Specify number, date, code, or name)

### N-78803 Clark, Lincoln, and White Pine Counties Groundwater Development Project

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

The monitoring and testing wells would be used to conduct hydrologic testing of Spring Valley. Information obtained from the testing would be used to assess aquifer characteristics, including storage parameters and hydraulic conductivity. Because there is limited hydrologic testing information available from this area, the data collected would benefit the Bureau of Land Management (BLM) and the public through a better understanding of the carbonate and alluvial aquifers in this area. Information collected during the testing could also be used in future groundwater modeling analyses and impact assessments.

It is estimated that each observation well will cost approximately \$250,000, and each test well will cost approximately \$500,000.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

At present, there is no human population at the proposed well sites. Since these wells would be used only for data collection, no social or economic impacts are anticipated.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

Due to the very limited size of the surface disturbance associated with drilling each well, air quality impacts are not anticipated. Because the final wells would consist only of a short capped steel casing, and no structures or appurtenances would be attached, no visual impacts would occur. The drilling and hydrologic testing would not impact groundwater quality and would cause only temporary impacts to groundwater quantity. Limited pumping would during testing may cause localized drawdowns that would quickly recover at the termination of the testing. The testing would provide more information about groundwater conditions. Temporary discharges of water during drilling and testing would be managed to avoid erosion or scouring, and no impacts to surface waters or drainages would occur. There would be temporary increases in noise levels during drilling; however, there are no sensitive receptors in the immediate vicinity of the proposed sites. Upon completion of drilling and testing, noise levels would return to ambient levels. Existing vegetation at each site would be disturbed, but would be crushed rather than bladed whenever possible. Measures to reduce potential spread of non-native vegetation are included in the project proposal. The sites would be restored to pre-existing grades, and adverse effects on soil stability would not occur.

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

Biological surveys of these sites were conducted in June, 2006. No threatened, endangered, or other sensitive species, noxious weeds, or invasive species were found at the proposed sites. No populations of fish or marine mammals exist at the proposed sites or would be affected by the drilling or testing activities.

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCIA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

Normal and customary procedures for drilling activities would be used. Any hazardous substances or waste associated with the drilling would be managed and disposed of in compliance with applicable state and federal requirements. No hazardous substances other than de minimis amounts needed for or generated during normal drilling operations would be temporarily stored in the BLM rights-of-way. All hazardous substances or wastes would be transported off-site for treatment and disposal at a permitted disposal facility. No hazardous substances would be released or disposed of on public lands.

20. Name all the Department(s)/Agency(ies) where this application is being filed. United States Department of the Interior, Bureau of Land Management

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant

Kenneth A. Albright, P.E.

Director, Groundwater Resources

Date

July 10, 2006

Title 18, U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

# **NOT APPLICABLE**

SUPPLEMENTAL

N	OTE: The responsible agency(ies) will provide instructions	CHECK APPROPRIATE BLOCK	
	I - PRIVATE CORPORATIONS	ATTACHED	FiLED*
_a.	Articles of Incorporation		
b.	Corporation Bylaws		
C.	A certification from the State showing the corporation is in good standing and is entitled to operate within the State		
C.	Copy of resolution authorizing filing		
e.	The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.		
f.	If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications.		
_g.	If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.		
	II - PUBLIC CORPORATIONS		
a.	Copy of law forming corporation		
þ.	Proof of organization		
C.	Copy of Bylaws		
_d.	Copy of resolution authorizing filing		
е.	If application is for an oil or gas pipeline, provide information required by item "I-f" and "I-g" above.		
	III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
_a.	Articles of association, if any		
b.	If one partner is authorized to sign, resolution authorizing action is		
Ç.	Name and address of each participant, partner, association, or other		
d.	If application is for an oil or gas pipeline, provide information required by item "I-f" and "I-g" above.		

If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.

### NOTICE

The Privacy Act of 1974 provides that you be furnished the following information in connection with information required by this application for an authorization.

AUTHORITY: 16 U.S.C. 310: 5 U.S.C. 301.

PRINCIPAL PURPOSE: The information is to be used to process the application.

ROUTINE USES: (1) The processing of the applicant's request for an authorization. (2) Documentation for public information. (3) Transfer to appropriate Federal agencies when concurrence is required prior to granting a right in public lands or resources. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, the application may be rejected.

### DATA COLLECTION STATEMENT

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certification for the use of Federal lands.

The Federal agencies use this information to evaluate the applicant's proposal.

The public is obligated to submit this form if they wish to obtain permission to use Federal lands.

A reproducible copy of this form may be obtained from the Bureau of Land Management, Division of Lands, 1620 L. Street, Room 204, Washington, D.C. 20036.

## NOT APPLICABLE

APPLICATION FOR TRANSPORTATION AND UTILITY SYSTEMS

#### AND FACILITIES ON FEDERAL LANDS GENERAL INFORMATION ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used

- Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
- Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom
- Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials
- Systems for the transmission and distribution of electric energy.
- Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.
- Improved right-of-way for snow machines, air cushion vehicles, and all-terrain
- Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with

Department of Agriculture Regional Forester, Forest Service (USFS)

Federal Office Building,

P.O. Box 21628

Juneau, Alaska 99802-1628

Telephone: (907) 586-7847 (or a local Forest Service Office)

Department of the Interior Bureau of Indian Affairs (BIA) Juneau Area Office Federal Building Annex 9109 Mendenhall Mall Road, Suite 5 Juneau, Alaska 99802 Telephone: (907) 586-7177

Department of the Interior Bureau of Land Management 222 West 7th Avenue P.O. Box 13

Anchorage, Alaska 99513-7599

Telephone: (907) 271-5477 (or a local BLM Office)

National Park Service (NPS) Alaska Regional Office 2525 Gambell Street, Room 107 Anchorage, Alaska 99503-2892 Telephone: (907) 257-2585

U.S. Fish & Wildlife Service (FWS) Office of the Regional Director 1011 East Tudor Road Anchorage, Alaska 99503 Telephone: (907) 786-3440

Note - Filings with any Interior agency may be filed with any office noted above or with the Office of the Secretary of the Interior, Regional Environmental Office, P.O. Box 120, 1675 C Street, Anchorage, Alaska 99513.

Department of Transportation Federal Aviation Administration Alaska Region AAL-4, 222 West 7th Ave., Box 14 Anchorage, Alaska 99513-7587 Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

#### OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska

Individual department/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

#### SPECIFIC INSTRUCTIONS (Items not listed are self-explanatory)

Item

- 7Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.
- 8Generally, the map must show the section(s), township(s), and range(s) within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.
- 910, and 12 The responsible agency will provide additional instructions.
- Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.
- The responsible agency will provide instructions.
- Generally, a simple statement of the purpose of the proposal will be sufficient. 15 However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.
- through 19 Providing this information is as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. Fore example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions

Application must be signed by the applicant or applicant's authorized representative.

Public reporting burden for this form is estimated to vary from 30 minutes to 25 hours per response, with an average of 2 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Debarment of the Interior, Bureau of Land Management, (Alternate) Bureau Clearance Officer, (WO-873), 1849 C Street, N.W., Washington, D.C. 20240, and the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

If additional space is needed to complete any item, please put the information on a separate sheet of paper and identify it as "Continuation of Item".

# Groundwater Monitoring and Testing Wells, Southern Spring Valley, Lincoln and White Pine Counties, Nevada

## **Plan of Development**

## Project Description

The Southern Nevada Water Authority (SNWA) is proposing four monitoring and testing well sites in southern Spring Valley, in Lincoln and White Pine Counties. The well site locations are shown on the attached maps.

The proposed monitoring and testing wells would be used to conduct hydrologic testing in Spring Valley. Information obtained from the testing would be used to assess aquifer characteristics, including storage parameters and hydraulic conductivity. Because there is limited hydrologic testing information available from this area, the data collected would benefit the Bureau of Land Management (BLM) and the public through a better understanding of the carbonate and alluvial aquifers in this area. Information collected during the testing could also be used in future groundwater modeling analyses and impact assessments.

Four well sites, each 2.5 acres in size, are requested. These test well sites were selected based upon proximity to hydrographic basin boundaries and geologic features, likely access to subsurface carbonate rocks, and the ability to use existing access roads. At each well site, an observation well and a test well would be constructed. The wells would be drilled to between 1,000 and 1,250 feet in depth, with the final depth dependant upon actual groundwater elevations. The observation wells would be up to 8-inches in diameter, and the test wells would be up to 20-inches in diameter. The observation and test wells would be spaced 100 to 300 feet apart, within the 2.5-acre well site.

Access to the sites would be from existing roads, and no new access roads would be required. If an existing road requires repairs or stabilization, any activities would be confined to the existing road boundaries. Stabilization, if needed, could include use of gravel, dirt, or straw fill of ruts or unstable surfaces. Grading of existing roads is not anticipated to be necessary, but if needed in localized areas would be confined to the existing road area.

## Construction

Drilling of the wells is anticipated to begin in October, 2006. Well drilling permits would be obtained from the Nevada Department of Water Resources, Office of the State Engineer (State Engineer). Each well would require approximately 30 days for drilling and initial well development. Drilling activities would occur on a 24 hour/7 day-a-week basis.

Equipment used to construct the wells would include a self-contained drilling rig, front loader/backhoe, flat bed trailer for bringing pipe and well casing material to the site, a water tanker, settling tank for containing drilling fluids, and pick-up trucks. A small construction trailer and portable restroom would also temporarily be located on-site during drilling.

Prior to the initiation of construction, the boundaries of each well site would be staked and flagged. No new ground-disturbance would occur outside of the designated sites. Existing vegetation within the well sites, primarily sagebrush scrub, would be crushed rather than bladed wherever possible. This would allow the surface soil and seed bank to remain in place.

A minimal amount of water would be generated during drilling operations. The volume would depend upon subsurface conditions, but is would be less than 250 gallons per minute (gpm). Because of the limited duration and rate of discharge, temporary discharge permits from the Nevada Division of Environmental Protection, Bureau of Water Pollution Control are not anticipated to be required for the drilling operation (permits not required if discharge less than 250 gpm and 48 hours in duration); temporary discharge permits would be required for the hydrologic testing, as described below. Any water generated during drilling would be contained in a small (typically approximately 50 square foot) lined settling pit on-site, to allow the drill cuttings and sediment to settle and drop out of suspension. After settling, the remaining water would be directed to flow into the natural drainage network around the site. No hazardous or toxic substances would be released. A diffuser or other erosion control measures would be used to prevent scouring.

A SNWA monitor would be present daily during well construction to ensure compliance with right-of-way boundaries and other right-of-way grant conditions. Water needed for drilling operations during construction would be brought to each site by the drilling contractor, or withdrawn from the other on-site well if temporary approval is obtained from the State Engineer. It is anticipated that the needed water would be purchased from a private party in the area.

At the completion of construction, the settling pits would be re-filled with the on-site excavated materials. Drill cuttings and other sediments generated during drilling would be scattered around the well site, to blend into the surrounding area. The completed wells would consist of a capped steel casing approximately 2 feet high on a 4-foot by 4-foot concrete pad. There would be no other appurtenances attached to the wells, and no equipment would be left on-site. Well construction activities are anticipated to be completed by July, 2007.

## **Hydrologic Testing**

At the completion of the well drilling, a 72-hour pump test would be conducted. A submersible pump would be lowered into the well, to approximately 100-150 feet below the groundwater elevation. Groundwater would be continuously pumped for 72-hours at a rate of up to 3,000 gpm. Water level measurements would be taken simultaneously in the adjacent observation well.

A step-down pump test would also be conducted at each of the test wells. This test involves pumping at different rates over several hour durations, while measuring water level changes. The groundwater discharge rate would be up to 3,000 gpm. The step-down pump test is anticipated to last about one day at each test well.

The pumps used for the hydrologic testing would be powered by a portable diesel engine generator, either trailer-mounted or on the bed of a truck. In addition to the drilling crew, a hydrologist would be present on-site for the duration of the hydrologic testing.

## Termination

Rights-of-way at these four sites for drilling, testing, and monitoring are requested for a 10-year term. Upon termination of the right-of-way grant, if these wells are desired for continued monitoring or testing, SNWA would request a right-of-way permit extension. If not desired for continued monitoring and testing by SNWA, the BLM, or other entities, SNWA would abandon the wells. Well abandonment and plugging would be in accordance with the Nevada Division of Water Resources requirements, set forth in the Nevada Administrative Code, sections 534.420 and 534.4365.









